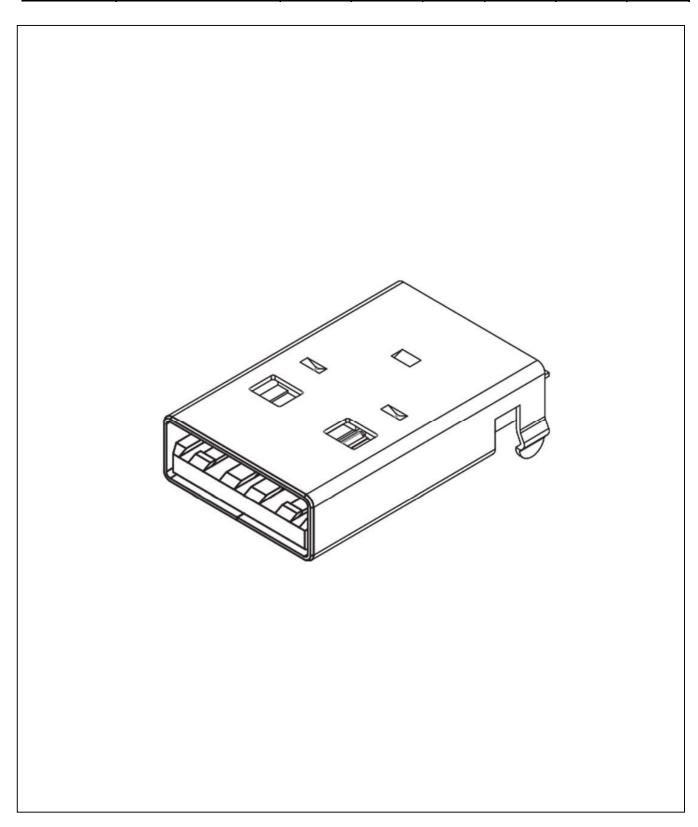
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#### 1.0 SCOPE.

This specification covers performance, tests and quality requirements for the USB Plug USB1061 (Type A, 4 Pin, Mid-Mount, Offset 1.43mm, SMT, Horizontal, Top Mount, Plastic Peg & Kinked Shell Stake).

#### 2.0 PRODUCT NAME AND PART NUMBER.

USB Plug, Type A, 4 Pin, Mid-Mount, Horizontal, USB1061.

#### 3.0 PRODUCT SHAPE, DIMENSIONS AND MATERIAL.

Please refer to drawings.

#### 4.0 RATINGS.

- 4.1 Current rating ...... 3.0 A
- 4.2 Voltage rating ...... 30 V
- 4.3 Operating Temperature Range ..... -55°C TO +85°C

#### 5.0 TEST AND MEASUREMENT CONDITIONS.

Product is designed to meet electrical, mechanical and environmental performance requirements specified in Paragraph 6.0. All tests are performed in ambient conditions unless otherwise specified.

#### 6.0 PERFORMANCE.

| Item                   | Test Condition   | Requirement   |
|------------------------|--|---|
| Examination of Product | Visual, dimensional and functional inspection as per quality plan. | Product shall meet requirements of product drawing and specification. |



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## 6.1 Electrical Performance.

| Item                               | Test Condition  | Requirement   |
|------------------------------------|---|---|
| Low level<br>Contact Resistance    | Subject mated contacts assembled in housing to 20mV Max open circuit at 100mA Max. In accordance with EIA-364-23. | 30mΩ Max.   |
| Insulation Resistance              | Impressed voltage 500V DC. Test between adjacent circuits of unmated connector. In accordance with EIA-364-21.    | 1000MΩ Min.   |
| Dielectric withstanding<br>Voltage | 500V AC for 1minute Test between adjacent circuits of unmated connector and in accordance with EIA-364-20.        | No creeping discharge or flashover shall occur. Current leakage: 0.5mA Max. |

### 6.2 Mechanical Performance.

| Item             | Test Condition   | Requirement  |
|------------------|--|--|
| Insertion Force  | Operation Speed: 12.5 mm/min. Measure the force required to mate connector and in accordance with EIA-364-13.  | 3.57KGf (35N) Max.   |
| Extraction Force | Operation Speed: 12.5mm/min.  Measure the force required to unmate connector and in accordance with EIA-364-13.  | 1.02KGf(10N) Min.  |
| Durability       | Operation Speed: 200 cycle/Hour<br>Durability Cycles: 5000 Cycles<br>In accordance with EIA-364-09.  | Contact Resistance 30mΩ.  Mating force: 3.57KGf (35N) Max.  Unmating force: 1.02KGf(10N) Min.  Contact resistance: 10mΩ change  Max. |
| Random Vibration | Mate connectors and subject to 5.35 Gs RMS. For a period of 15 minutes in each of 3 mutually perpendicular axes. In accordance with EIA-364-28D.   | No electrical discontinuity greater than 1 μsec. shall occur. No damage to product. Contact resistance: 10 mΩ change Max.            |
| Mechanical Shock | Accelerate Velocity: 30Gs Waveform: Half-sine shock plus Duration: 11msec Three shocks in each direction applied along three mutually perpendicular planes for a total of 18 shocks. In accordance with EIA-364-27 | No electrical discontinuity greater than 1 μsec. shall occur. No damage to product. Contact resistance: 10mΩ change Max.             |



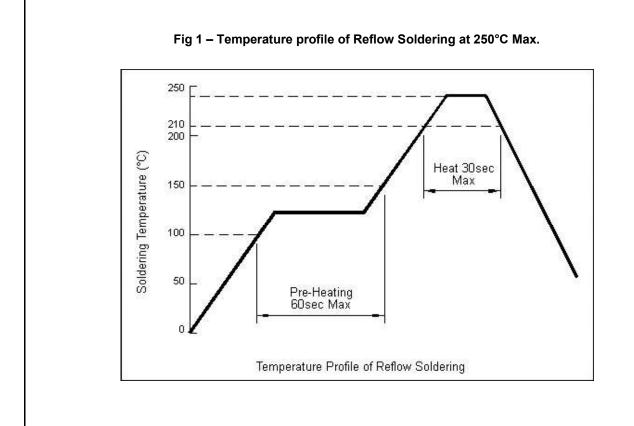
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### 6.3 Environmental Performance and Others.

| Item                                   | Test Condition  | Requirement   |
|--|---|---|
| Solderability                          | Solder pot temperature: 245 ± 5°C, 5sec   | The inspected area of each lead must have 95% solder coverage minimum.  |
| Thermal Shock                          | Mated Connector -55°C and +85°C Perform this a cycle, repeat 10 cycles. In accordance with EIA-364-32.  | Contact resistance: 10 mΩ change<br>Dielectric withstanding Voltage : no<br>breakdown<br>Insulation Resistance: 100 MΩ Min. |
| Humidity                               | Mated Connector<br>40°C, 90~95% RH, 168hours.<br>In accordance with EIA-364-31.   | Contact resistance: 10 mΩ change Dielectric withstanding Voltage : no breakdown Insulation Resistance: 100 MΩ Min.          |
| Temperature life                       | Subject mated connectors to temperature life at 85 for 500hours ,In accordance with EIA 364-17 Test Condition 2 Method A  | Contact resistance: 10 mΩ change  |
| Salt Spray                             | Subject mated connectors to 35+/-2°C and 5+/-1% salt condition for 8hours.  After test, rinse the sample with water and recondition the room temperature for 1 hour. In accordance with EIA-364-26. | No detrimental corrosion allowed in contact area and base metal exposed.  |
| Resistance to Reflow<br>Soldering Heat | Mount Connector, place in reflow oven and expose to the temperature profiles shown in fig 1   | No evidence of physical damage or abnormalities adversely affecting performance.  |



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## 7.0 PRODUCT QUALIFICATION AND TEST SEQUENCE

| Test Item                              |      |      |      | Test | Group |      |      |  |
|--|------|------|------|------|-------|------|------|--|
| Tool nom                               | Α    | В    | С    | D    | Е     | F    | G    |  |
| Examination of Product                 | 1,7  | 1, 9 | 1, 6 | 1, 5 | 1, 5  | 1, 3 | 1, 3 |  |
| Contact Resistance                     | 2,8  | 3, 7 | 2,5  | 2, 4 | 2, 4  |      |      |  |
| Dielectric Withstanding Voltage        | 3,9  |      |      |      |       |      |      |  |
| Insulation Resistance                  | 4,10 |      |      |      |       |      |      |  |
| Mating Force                           |      | 2, 6 |      |      |       |      |      |  |
| Unmating Force                         |      | 4, 8 |      |      |       |      |      |  |
| Durability                             |      | 5    |      |      |       |      |      |  |
| Random Vibration                       |      |      | 4    |      |       |      |      |  |
| Mechanical Shock                       |      |      | 3    |      |       |      |      |  |
| Temperature life                       |      |      |      | 3    |       |      |      |  |
| Solderability                          |      |      |      |      |       |      | 2    |  |
| Resistance to reflow soldering<br>Heat |      |      |      |      |       | 2    |      |  |
| Thermal Shock                          | 5    |      |      |      |       |      |      |  |
| Humidity                               | 6    |      |      |      |       |      |      |  |
| Salt Spray                             |      |      |      |      | 3     | _    |      |  |



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### Revision details :-

| Revision | Information   | Page | Release Date |
|----------|---|------|--------------|
| Α        | Specification released.   | -    | 31/10/14     |
| A1       | Change current rating form 1.5A to 3A; change durability from 1500 cycles to 5000 cycles. | 2&3  | 12/03/21     |
|          |   |      |              |
|          |   |      |              |

